Applicant(s): Jonathan S. Brecher   PATENT
USSN: 09/502,810   Attorney Docket Number 103544.127
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REMARKS

The specification has been amended to insert the serial number of the simultaneously filed patent application entitled ENHANCING STRUCTURE DIAGRAM GENERATION. No new matter has been added.

The applicant appreciates the care with which the examiner has reviewed the applicant's case, including the nomTokens appendix.

The claims are directed to a method, a system, and software for use in deriving chemical structural information. A chemical name is acquired that lacks an association with a chemically accurate computer readable diagrammatic representation of a substance identified by the chemical name. The chemical name is parsed into at least first and second fragments that are non-contiguous. Computer executable logic is applied to the first and second fragments. The computer executable logic determines, based at least in part on the positions of the first and second fragments within the chemical name, respective first and second chemically accurate computer readable diagrammatic representations of the first and second fragments.

Claims 1-20 have been rejected under 35 U.S.C. 112, first paragraph, as containing new matter. The action states that the limitation directed to parsing "non-contiguous" fragments has not been found in the specification as filed and thus is new matter. Applicant respectfully disagrees. Applicant asserts that the originally filed disclosure supports claim language such as "the first and second fragments being non-contiguous" and that there is no new matter, even if the specific word "non-contiguous" has not been found in the specification. As stated in MPEP 2163.02, "[t]he subject matter of the claim need not be described literally (i.e., using the same terms or in haec verba) in order for the disclosure to satisfy the description requirement." In fact, in regard to satisfactory non-literal descriptions, the specification recites "multiple non-adjacent fragments" at page 21, line 15. Further, Fig. 7A and related text describe at least one specific example in which a diagrammatic representation is determined based on non-contiguous fragments. The originally filed specification states, at page 25, lines 8-14:

> The list of nomTokens is examined for recognized environments. The
> first recognized environment is found when the list is examined for amino

> acids. No amino acids are found in the list, but one nomToken ("yl") of
> type kTypeEnderAminoAcid is present. <u>Such a nomToken, being
> meaningful only in the context of amino acids, is not meaningful in this
> list that contains no amino acids.</u> Accordingly, the nomToken of type
> kTypeEnderAminoAcid is converted to the next-highest-ranked
> nomToken ...

In the cited example, fragment "yl" is determined not to be meaningful based on an examination of an entire list of fragments ("no amino acids are found in the list"), at least one of which is non-contiguous with "yl", and the subsequently described resulting representation is a direct consequence of that determination. Additionally, the methods described elsewhere in the specification make clear that diagrammatic representations are determined based, at least in part, on non-contiguous fragments. Accordingly, the rejection of claims 1-20 under 35 U.S.C. 112, first paragraph, should be withdrawn.

Claims 1-5, 7-16, and 18-20 have also been rejected under 35 U.S.C. 112, first paragraph, as lacking enablement for methods that lack inversion. The action states that "inversion only is enabled as a required step and not methods that lack said inversion". The applicant respectfully disagrees and submits that the specification enables a person skilled in the art to make the invention commensurate in scope with the rejected claims, which do not recite "inversion". As stated in MPEP 2164.08(c), "an enablement rejection based on the grounds that a disclosed critical limitation is missing from a claim should be made <u>only when the language of the specification makes it clear that the limitation is critical</u> for the invention to function as intended." In particular, at least the "if" clause of the following passage from the specification at page 6, lines 3-5, makes clear that inversion is <u>not</u> always performed, even in the example embodiment:

> Also during the preprocessing, <u>if</u> the name or a portion of the name has
> been submitted in inverted form (e.g., "acetic acid, 2-hydroxy-"), the name
> or portion is converted to its uninverted form (e.g., "2-hydroxyacetic
> acid") ...

Further, the specification describes an example embodiment of an invention recited in the claims, and clearly states, at page 29, line 17, that "[o]ther embodiments are within the scope of the ... claims." In particular, with respect to inversion, the specification describes preprocessing (which

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may include inversion) that is subsequently helpful, but not necessarily required, in the example
embodiment. It is plain to a person skilled in the art that such inversion, while helpful in at least
some cases to reduce or streamline subsequent processing, may or may not be pertinent or
important in another case or embodiment, and is not needed to produce the final result.
Accordingly, the specification amply supports the scope of the claims that do not recite
"inversion", and the rejection of claims 1-5, 7-16, and 18-20 under 35 U.S.C. 112, first
paragraph, should be withdrawn.

Claim 2 has also been rejected under 35 U.S.C. 112, first paragraph, as lacking
enablement for "conditions". The action states that pages 14-15 as previously referenced by the
applicant fail to enable "conditions" cited in claim 2. The applicant respectfully disagrees, and
submits that the specification enables a person skilled in the art to make and use the invention of
claim 2. The specification describes an example embodiment of an invention recited in claim 2,
in which "[e]ach known text string is associated in the lexicon with at least one data object
known as a nomToken" (page 14, lines 1-2). With respect to "conditions", the specification goes
on to describe an example embodiment of the nomToken data object in detail, including an
associated connection table and locant, attach-in, and attach-out maps (page 15, lines 1-2), which
are also described in detail. It is plain to a person skilled in the art that some or all of these items
may provide "conditions" as recited in claim 2. Examples are described in conditional language
in the specification at page 15, lines 14 through page 16, line 5:

> For example, after the phrase "oct-3-ylidene" is interpreted, an entry in the
> attach-out map indicates that the "3" atom in the "oct" group should have
> an attachment of order 2. For both the attach-in and attach-out maps, the
> actual construction of the attachments is performed later in the process.
>
> An attach-in indicates an atom that, in at least some circumstances,
> preferentially has another fragment attached to it. For example, "acetate"
> has four atoms: two carbons and two oxygens. A proper interpretation of
> "methyl acetate" specifies that the methyl group is attached to a particular
> one of the oxygens. For a portion of the processing period, between the
> time that "acetate" is handled and the time that "methyl" is attached to it,
> an attach-in exists on that particular one of the oxygens. Then, when it is
> time to add the "methyl" fragment, the position indicated by the attach-in
> is where the "methyl" fragment is attached to the acetate.

Thus, the specification provides a sufficient basis for one skilled in the art to make or use the invention, and the rejection of claim 2 under 35 U.S.C. 112, first paragraph, should be withdrawn.

Claims 1-4 and 5-20 have also been rejected under 35 U.S.C. 112, second paragraph, as being vague and indefinite with respect to nomTokens. The applicant respectfully disagrees. As stated in MPEP 2173.05(a), "[w]hen the specification states the meaning that a term in the claim is intended to have, the claim is examined using that meaning, in order to achieve a complete exploration of the applicant's invention and its relation to the prior art." As stated above in connection with the discussion of the rejection of claim 2, the specification (particularly pages 14-17) clearly mentions "nomTokens" and describes an example embodiment of a "nomToken" and example embodiments of an associated connection table and locant, attach-in, and attach-out maps. Further, the specification at page 14, lines 1-2, identifies an example of a nomToken as a "data object" that "includes the text of the known text string as its name". In addition, the specification goes on to describe in detail an example of a procedure for using a nomToken data object (pages 17-30), and includes an "Appendix: NomTokens" containing examples of nomTokens. In regard to the specific nomToken example cited in the most recent action, the alignment of the format is clear to one of ordinary skill in the art based on the understanding in the art that brackets "{}" and ellipsis points "..." indicate optional material and that "<space>" denotes a delimiting space character. Thus, proper alignment below yields "meth|carbin" as name, "root" as type, "alkane" as subtype, and "C,a|alpha|1|w|omega" as data.

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name{|synonym|synonym|...}<space>type<space>subtype<space>data

meth|carbin root alkane C,a|alpha|1|w|omega
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Accordingly, the rejection of claims 1-4 and 5-20 under 35 U.S.C. 112, second paragraph, as being vague and indefinite with respect to nomTokens should be withdrawn.

Claims 1-5, 7-12, 15-16, and 18-20 have also been rejected under 35 U.S.C. 102(e) as being anticipated by Ecker. However, Ecker does not disclose deriving chemical structural information where the diagrammatic representations that are determined are of <u>non-contiguous</u>

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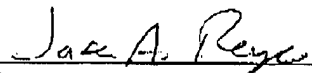USSN: 09/502,810   Attorney Docket Number 103544.127
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fragments based at least in part on the positions of the non-contiguous fragments, as required by all the claims. Ecker discloses interpreting a sequence of contiguous letters one by one in contiguous order where each letter represents a shorthand version of particular building block. Representations of building blocks are not determined based on positions of corresponding non-contiguous letters. Thus, for at least this reason, claims 1-5, 7-12, 15-16, and 18-20 are not anticipated by Ecker, and the rejection under 35 U.S.C. 102(e) should be withdrawn.

The applicant submits that the application is in condition for allowance, which action is requested.

The Commissioner is hereby authorized to charge any fee deficiency, or credit any overpayment to our Deposit Account No. 08-0219.

Respectfully submitted,

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Replacement Text for Page 4, Line 16 of the Specification

(CLEAN FORM)

--This application is filed simultaneously with a United States Patent Application entitled ENHANCING STRUCTURE DIAGRAM GENERATION, serial no. 09/502,133, which is incorporated herein.--

Replacement Text for Page 4, Line 16 of the Specification

(MARKED TO SHOW CHANGES)

--This application is filed simultaneously with a United States Patent Application entitled ENHANCING STRUCTURE DIAGRAM GENERATION, serial no. [_____] 09/502,133, which is incorporated herein.--